

# Data and the Improvement Journey

QI Power Hour  
Brandon Bennett  
27 January 2022



---

---

---

---

---

---

---

---

## Aotearoa (New Zealand)



- 4.69 million people
  - 70% European Descent
  - 16.5% Maori
- 53.7% live in 4 biggest cities
- 1.45 million in Auckland

---

---

---

---

---

---

---

---

3<sup>rd</sup> Grade literacy rates were not where leaders would like them to be.

Ministry of Education wants to improve these outcomes because they are directly linked to longer term academic and economic outcomes for people



---

---

---

---

---

---

---

---

Where do we start?

I|S|C

---

---

---

---

---

---

---

---

It all begins with...

A common experience

Dissatisfaction with the status quo and a recognition that existent outcomes are either not desirable or just not good enough

We acknowledge we need an improvement journey

I|S|C

---

---

---

---

---

---

---

---

What does it take to achieve literacy by age 8

---

↑  
3<sup>rd</sup> Grade  
Literacy  
(age 8)

I|S|C

---

---

---

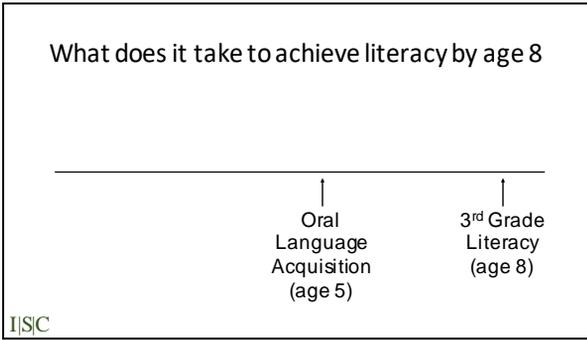
---

---

---

---

---



---

---

---

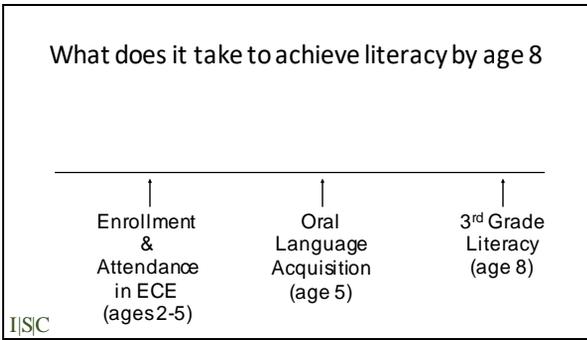
---

---

---

---

---



---

---

---

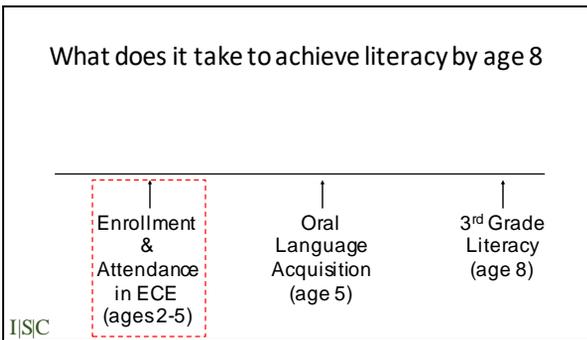
---

---

---

---

---



---

---

---

---

---

---

---

---



2014

ALL children participating in early childhood education

GAP

~50% of children are participating in early childhood education in South Auckland

---

---

---

---

---

---

---

---



ALL children participating in early childhood education

GAP

~50% of children are participating in early childhood education in South Auckland



The children of low-income families (often Māori and Pacific Islander communities) enrol 25% less often than more affluent children.

---

---

---

---

---

---

---

---

Every system is perfectly designed to achieve the results it gets.

Improvement axiom




---

---

---

---

---

---

---

---

### Really...?

- What limits the number of patients we can see in a day?
- How many students can be in single classroom?
- How many people can be served by a single shelter?
- What is the maximum speed of your car? What limits that speed?
- How long will the battery on your computer last without being plugged in?
- How long will it take to cook dinner?

I|S|C

---

---

---

---

---

---

---

---

### What do we need to succeed in changing the outcomes of systems?

Another way to say, what do we need to improve the outcomes of systems

I|S|C

---

---

---

---

---

---

---

---

### Content Knowledge

#### Experiential Knowledge

- Life experience – especially of those the improvement work seeks to help.

#### Research Knowledge

- What works – most frequently generated by the academy

#### Professional Knowledge

- Professional training as well as professional experience

I|S|C

Bennett, Gunow & Park 2021, Pg. 16

---

---

---

---

---

---

---

---

Improvement Knowledge

Understanding Variation

IISC

---

---

---

---

---

---

---

---

Improvement Knowledge

Understanding Variation  
Psychology of Change

IISC

---

---

---

---

---

---

---

---

Improvement Knowledge

Understanding Variation  
Psychology of Change  
Appreciation of the System

IISC

---

---

---

---

---

---

---

---

Improvement Knowledge

Understanding Variation  
Psychology of Change  
Appreciation of the System  
Theory of Knowledge

I|S|C

---

---

---

---

---

---

---

---

Improvement Knowledge

Values

Understanding Variation  
Psychology of Change  
Appreciation of the System  
Theory of Knowledge

I|S|C

---

---

---

---

---

---

---

---

Improvement Knowledge

Values

**Understanding Variation**  
Psychology of Change  
Appreciation of the System  
Theory of Knowledge

I|S|C

---

---

---

---

---

---

---

---

### System Level Measures

- In New Zealand and elsewhere: 3<sup>rd</sup> grade literacy – this measure is predictive of future outcomes for students
- For those of us in healthcare or other fields:
- Systems Level Measures are measures which indicated the health or wellness of those we serve: Life expectancy, Happiness, Income.




---

---

---

---

---

---

---

---

---

---

### In our case a direct relationship between literacy and health outcomes

"We reviewed 3,015 titles and abstracts and pulled 684 articles for full review; 73 articles met inclusion criteria and, of those, 44 addressed the questions of this report. Patients with low literacy had poorer health outcomes, including knowledge, intermediate disease markers, measures of morbidity, general health status, and use of health resources. Patients with low literacy were generally 1.5 to 3 times more likely to experience a given poor outcome. The average quality of the articles was fair to good. Most studies were cross-sectional in design; many failed to address a adequately confounding and the use of multiple comparisons.

#### CONCLUSIONS

Low literacy is associated with several adverse health outcomes. Future research, using more rigorous methods, will better define these relationships and guide developers of new interventions.

J Gen Intern Med. 2014 Dec; 19(12): 1238-1239.  
 doi: 10.1213/01255127-2014-01032

PMCID: PMC4182998  
 PMID: 25193224

Literacy and Health Outcomes  
 A Systematic Review of the Literature  
 Susan A. Schultz, MD, MPH, <sup>1,2,3,4</sup> Susan D. Brinkman, PhD,<sup>5</sup> Steven Brinkley, MD, MPH,<sup>1,4</sup> Kathleen S. Lyle, PhD,<sup>6</sup> and Michael P. Foxman, MD, MPH,<sup>1,2,3,4</sup>




---

---

---

---

---

---

---

---

---

---

### In our case a direct relationship between literacy and health outcomes

"We reviewed 3,015 titles and abstracts and pulled 684 articles for full review; 73 articles met inclusion criteria and, of those, 44 addressed the questions of this report. **Patients with low literacy had poorer health outcomes, including knowledge, intermediate disease markers, measures of morbidity, general health status, and use of health resources.** Patients with low literacy were generally 1.5 to 3 times more likely to experience a given poor outcome. The average quality of the articles was fair to good. Most studies were cross-sectional in design; many failed to address a adequately confounding and the use of multiple comparisons.

#### CONCLUSIONS

Low literacy is associated with several adverse health outcomes. Future research, using more rigorous methods, will better define these relationships and guide developers of new interventions.

J Gen Intern Med. 2014 Dec; 19(12): 1238-1239.  
 doi: 10.1213/01255127-2014-01032

PMCID: PMC4182998  
 PMID: 25193224

Literacy and Health Outcomes  
 A Systematic Review of the Literature  
 Susan A. Schultz, MD, MPH, <sup>1,2,3,4</sup> Susan D. Brinkman, PhD,<sup>5</sup> Steven Brinkley, MD, MPH,<sup>1,4</sup> Kathleen S. Lyle, PhD,<sup>6</sup> and Michael P. Foxman, MD, MPH,<sup>1,2,3,4</sup>




---

---

---

---

---

---

---

---

---

---

### System Level Measures

- In New Zealand and elsewhere: 3<sup>rd</sup> grade literacy – this measure is predictive of future outcomes for students
- For those of us in healthcare or other fields:
- Systems Level Measures are measures which indicated the health or wellness of those we serve: Life expectancy, Happiness, Income.
- The dimensions of quality are up to us to decide

I|S|C

---

---

---

---

---

---

---

---



ALL children participating in early childhood education



~50% of children are participating in early childhood education in South Auckland



The children of low-income families (often Māori and Pacific Islander communities) enrol 25% less often than more affluent children.

---

---

---

---

---

---

---

---

### What does an Improvement Journey look like?



I|S|C

Bennett, Grunow and Park, 2021

---

---

---

---

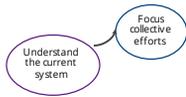
---

---

---

---

### What does an Improvement Journey look like?



I|S|C

Bennett, Grunow and Park, 2021

---

---

---

---

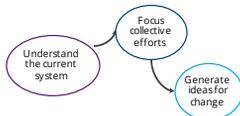
---

---

---

---

### What does an Improvement Journey look like?



I|S|C

Bennett, Grunow and Park, 2021

---

---

---

---

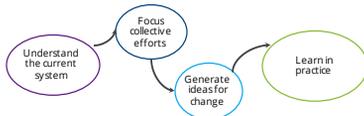
---

---

---

---

### What does an Improvement Journey look like?



I|S|C

Bennett, Grunow and Park, 2021

---

---

---

---

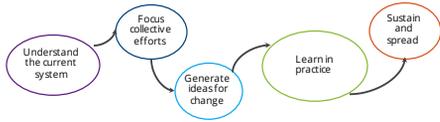
---

---

---

---

### What does an Improvement Journey look like?



I|S|C

Bennett, Grunow and Park, 2021

---

---

---

---

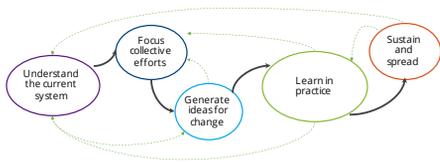
---

---

---

---

### What does an Improvement Journey look like?



I|S|C

Bennett, Grunow and Park, 2021

---

---

---

---

---

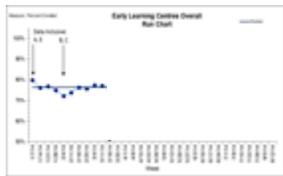
---

---

---

### Project Level Measures

- In New Zealand:
- Percent Enrolled Places
- Percent Attendance



I|S|C

---

---

---

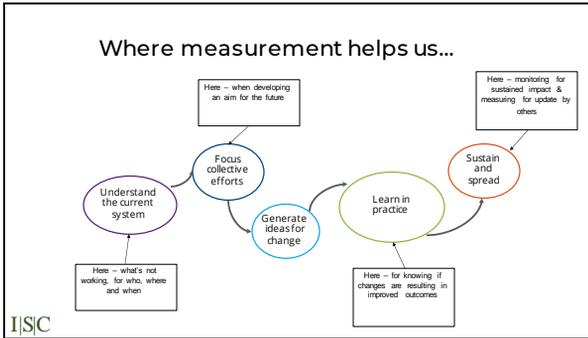
---

---

---

---

---




---

---

---

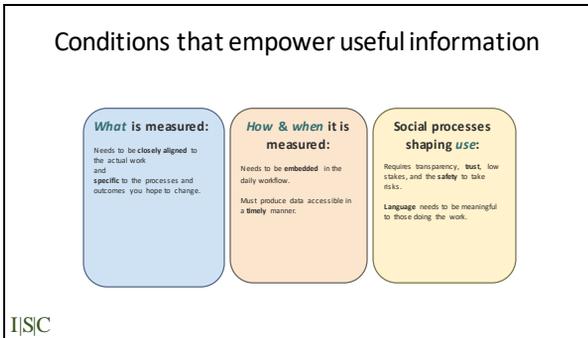
---

---

---

---

---




---

---

---

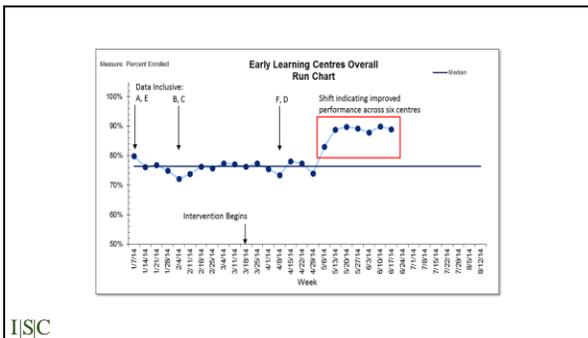
---

---

---

---

---




---

---

---

---

---

---

---

---

### Success with enrollment and attendance lead to...

A new journey focused on oral language acquisition



An increasing number of five year olds are starting school with 3,000 fewer words in their language tool box than other children.

*"Kids who start out ahead, stay ahead.  
Kids who start out behind, stay behind."*

van Hoes, L. (2013). "The expressive realities of five and six-year old students in Year 1 and 2 classes in low-socio-economic schools." *ESL* 43: 47-64

I|S|C

---

---

---

---

---

---

---

---

### Te Whāriki - NZ's Early Childhood Curriculum

'to grow up as competent and confident learners and communicators, healthy in mind, body, and spirit, secure in their sense of belonging and in the knowledge that they make a valued contribution to society.'

Te Whāriki - He Whāriki Mātauranga mō ngā mokopuna o Aotearoa  
NZ Early Childhood Curriculum

I|S|C

---

---

---

---

---

---

---

---

Thank you

I|S|C



---

---

---

---

---

---

---

---